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ABSTRACT

The increasing popularity of vocational education has helped to prepare both men and women in learning the skills of different trades. However, women's position in learning better trade skills has been hindered by institutional barriers in vocational education training for technical jobs, the trades, and industry. Few studies have been made pertaining to the roles and needs of women in vocational education. Barriers confronting women seeking vocational education include: admission to vocational education courses, which often separates programs and courses by sex in high schools and, in postsecondary programs, the lack of publicity about vocational education programs for adult women; enrollment in postsecondary education programs, hindered for many women by the problems of school location and child care; instruction methods, which tend to produce female stereotypes and where women are barely represented in the administrative levels; and the lack of counseling for women in curriculum and career choices. Improvements in job training for women and guarantees of equity in vocational education should focus on the following areas: Federal laws; Federal, State, and local educational policies and practices; and research and development. An outline of the Vocational Education Amendment of 1968 and 83 notes and references are appended. (EC)

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VOCATIONAL EDUCATION AND WOMEN

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VOCATIONAL EDUCATION AND WOMEN

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Vocational Education

While college and university enrollments and the school age population have been leveling off, vocational education has been booming.[1] State vocational and technical education enrollments increased from roughly 7.5 million to 11.6 million from 1968 to 1972.[2] Vocational education has been even more successful in terms of funding. Over the same years when enrollments increased by a third, the funding was more than doubled. In 1962 vocational education received $262 million in federal and $930 million in state and local funding; in 1972, the figures were $464 million and $2.2 billion; respectively.[3] In addition, the Higher Education Act of 1972 authorized $950 million over the next 3 years for post-secondary occupational (i.e. vocational) education. This sum was over three times that authorized for the establishment of new community colleges and the expansion of old ones--$275 million.[4]

Women in Vocational Education

During this period of growth, what impact has vocational education had on girls and women?[5] Most of the answer to this question is not known. However, a comparative study of vocational education by Kauman et al. in 1967 concluded:

> ...vocational education...is being restricted by the prevailing stereotypes as to the proper occupations for women. These are the same stereotypes that restrict the vocational self concepts of young girls. ...It has been established for some time that there are no basic differences in intelligence between the sexes. When given the opportunity, women have proved they can handle almost any job that a man can. With the increasing demand for highly skilled individuals, society cannot long afford the waste of human resources caused by the prevailing limitations on the utilization of female abilities.[6]

More recently, the U.S. Department of Labor sponsored Women in Apprenticeship Project observed:

> 98.5% of the enrollees in Wisconsin High School industrial classes were male. The girls are given home economics or, if they are not on the college track, business subjects. In most schools girls are either overtly forbidden or subtly discouraged from seriously experimenting with shop courses that lay the foundation for work in the skilled trades: too great an interest in, or proficiency at, things technical are considered "unfeminine." This puts most women at a disadvantage when taking selection tests that examine familiarity with the tools and terms of the trade.[7]

Nationwide, of the 6.4 million women and girls enrolled in public vocational programs in 1972, 49% were being trained in home economics and another 28% in office practices. Very few were being prepared for the better paying trades, industrial and health occupations other than nursing, or technical jobs.[8] In addition, while females comprised 55% of the students enrolled in secondary vocational education programs, they comprised only 39% of those enrolled in post-secondary vocational education programs and 46% of those enrolled in adult vocational education programs in the U.S. in 1972.[9] While little effort is being made to guide women into higher paying, less female-stereotyped occupations, the National Planning Association estimates that by 1980, 20.1 million job openings will occur in primarily traditionally male occupations for which high schools offer vocational courses with entry-level preparation.[10]

Vocational Education Research and Women

In fiscal year 1974, $40 million was appropriated for vocational education research and development under the authority of the Vocational Education Amendments of 1968 (P.L. 90-576).[11] These funds are administered by the Bureau of Occupational and Adult Education of the U.S. Office of Education (U.S.O.E.). Additional sums were appropriated for vocational education research and development by the U.S.

Department of Defense, the Department of Labor, the National Institute of Education, other federal agencies, the states independent of state administered federal funds, and private foundations.

Little of this multi-million dollar funding was devoted to projects directly related to the needs of women in vocational education.[12] In fiscal year 1974 out of the 93 federally funded projects under Section 131(a), Part C of the Vocational Education Amendments of 1968, for example, only one pertained directly to women (that, directed by Kaufman and Lewis, will be discussed below).[13] The allocation of so few Part C funds in 1974 to projects pertaining to women is all the more striking given The National Advisory Council on Extension and Continuing Education's critical observation the previous year that:

> ...Although the legislative language (of Part C, Section 132 of the Vocational Education Act) is general enough to permit funding of demonstration projects relevant to the needs of mature women.... only one project has been funded with any relevance to the concerns of women.[14]

No projects on women were funded in 1974 under the federally administered Part I or the regionally administered Part D of the Amendments.[15] Part D funds, according to Joyce Cook, Acting Chief of the Demonstration Branch of the Bureau of Occupational and Adult Education, U.S.O.E., which sets policy for the regional administration of the funds, are to be used for research of relevance to a broad range of populations rather than to a specific population.[16] Of the fifty state offices of vocational education, three are currently sponsoring research to determine how vocational education might better serve girls and women.[17]

To date no survey has been made to determine what percent of the project directors funded under the Vocational Education Amendments are women. Such a survey would appear to be called for under Title 9 of the 1972 Education

Amendments. Women comprised 17 percent of the members of the American Vocational Education Research Association in 1973-1974.[18] This figure would appear to be a justifiable benchmark against which to evaluate whether or not women are fairly represented as directors of research projects funded under the Vocational Education Amendments.

Given that approximately 7 million women and girls are enrolled in public vocational education programs and that females comprise over half the students enrolled in vocational education programs, it is startling that so little vocational education research and development funding has been devoted to adjusting vocational education to their needs.

Women's Vocational Education Needs and the Law

In 1974, 45% of all women aged 16 years and over were part of the labor force. These women comprised 39% of the total labor force as compared with 26% in 1940.[19] Most of these women, the U.S. Department of Labor has reported, work because they must. In March 1973, of the 34 million women in the labor force, over half were either single, widowed, divorced or separated, or had husbands whose incomes were less than $5,000 a year. Another 2.7 million were married to men with incomes between $5,000 and $7,000---incomes which fell below the Bureau of Labor Statistics' criteria for even a low standard of living for an urban family of four.[20] Most of these working women had low wages. The full-time year-round (50 to 52 weeks a year, 35 hours or more a week) median, before tax wage of female operatives was $5,021; of service workers (except private household), $4,606; and of non-farm laborers, $4,755 in 1972.[21]

Unequal pay for equal work, though important, is only a small part of the larger question of why women workers receive low wages, according to economist Mary Stevenson. Following an extensive analysis of census data, she has concluded

that sex "segregation in labor markets is the real problem underlying the low wages that women receive. ...Whenever women are cordoned off into a circumscribed number of occupations and industries, the consequences are low wages."[22] In line with Stevenson's conclusions, Elizabeth Waldman and Beverly McEaddy have recently reported that although women, like men, find jobs in the fastest growing industries, today, as in decades past, no matter what industry women are in, they remain clustered in fewer and lower paying occupations than men.[23] According to a 1970 tabulation by the Bureau of the Census, for example, of the more than 250 distinct occupations reviewed in 1969, half of all women workers were employed in only 21 occupations as compared with the first 50% of male workers who were dispersed over 65 or three times as many occupations.[24]

Furthermore, female-intensive industries continue to be considerably lower paying than male-intensive industries. For example, Waldman and McEaddy report:

> In January 1973, most industries paying average weekly earnings of less than $100 were female-intensive. Several were paying under $90 a week, while the weekly paycheck for all industries averaged $138. The average salary for all manufacturing workers was $159 a week in January 1973. For those in manufacturing industries that were female-intensive, the average was much lower--for example the apparel industry, in which 81% of the employees were women, paid average weekly salaries of only $93.[25]

Recently women have been breaking into the higher paying skilled trades in greater numbers, but the percentage of women workers in these jobs remains small (1.6% of women workers over age 16 were employed in craft and kindred jobs in May 1974).[26]

Social discrimination in educational programs and industrial hiring rather than aptitude has barred women from these skilled jobs. Extensive studies by the Human Engineering Laboratory of the Johnson O'Connor Research Foundation show that many women have the aptitudes to perform jobs that have been dominated by men. In fact the research indicates that no significant sex differences exist in 14 of the aptitude and knowledge areas studied, and of the remaining areas, men excel in 2 and women in 4.[27]

While increasing numbers of women must earn wages adequate to support themselves and their families and while the cordoning off of women in a limited number of occupations has been shown to contribute significantly to their low wages, vocational education has not encouraged women to prepare for and enter higher paying, stereotypically-male occupations. Vocational education teachers and counselors have in fact often actively discouraged women from taking courses which would prepare them for these jobs or have actually refused to allow them to do so. At other times they simply mislead women students by allowing or encouraging them to believe that as wives and mothers they will not need to work when in fact their husbands are unlikely to be able to support a family alone, and by neglecting discussion of current divorce rates and the corresponding high probability that women students as young adults will have to support themselves and their children.

Eradicating these and other barriers to women and girls in vocational education is no longer a matter of gallantry but a matter of law. Title IX of the 1972 U.S. Education Amendments states:

> no persons in the United States shall, on the basis of sex, be excluded from participating in, be denied the benefits of or be subjected to discrimination under any educational program or excluded from actively receiving federal financial assistance...[28]

This passage as well as the subsequent anti-discrimination provision with regard to admission, student assignment and faculty employment practices applies to public or private institutions of vocational education.

Eradicating Barriers to Women in Vocational Education: Proposals for Research and Development

> ...prejudices and outmoded customs act as barriers to the full realization of women's basic rights which should be respected and fostered as part of our Nation's commitment to human dignity, freedom, and democracy...
>
> John F. Kennedy, in establishing the President's Commission on the status of Women, 1961.

Elsewhere I have written about internalized and institutional barriers to women in higher education.[29] Similar factors operate in vocational education. Internalized barriers refer to social attitudes, norms and prejudices taught both men and women concerning "feminine" and "masculine" behavior which when internalized limit both sexes' ability to think flexibly about their actions, activities and social roles.[30] Women students who enter vocational education today received their first bit of socialization concerning sex roles when, as newborn infants, they were carefully wrapped in pretty pink blankets. Later as young children, they were encouraged by their families to play house, take care of their baby dolls, and act like "ladies." "Masculine" traits such as physical and intellectual prowess, problem-solving ability, and overt hostility, while encouraged in their brothers, were severely discouraged in them.[31] Their grade school teachers continued to socialize them to "their roles." Despite the increasing proportion of mothers in the national labor force, their grade-school readers seldom, if ever, portrayed mothers at work.[32]

Obviously affirmative action should begin with girls at an early age. In order that girls may later be able to flexibly consider a wide range of vocational choices from homemaking to tool and die making, they should be told stories in kindergarten, grade school and Girl Scouts about women's move into traditionally male occupations as well as about women in traditionally female positions. Text books and other curricular material as well as the media should be rid of sex stereotypes. Girls as well as boys should be encouraged to exercise not only so that they may develop strength in order to qualify for jobs which require it, but also for their general health. When affirmative action has not begun early and girls enter ninth grade with a set of internalized barriers, vocational education

programs through the steps suggested below should help girls rethink their sex stereotypes, consider feminine sex roles more flexibly, and become aware of expanded occupational opportunities.

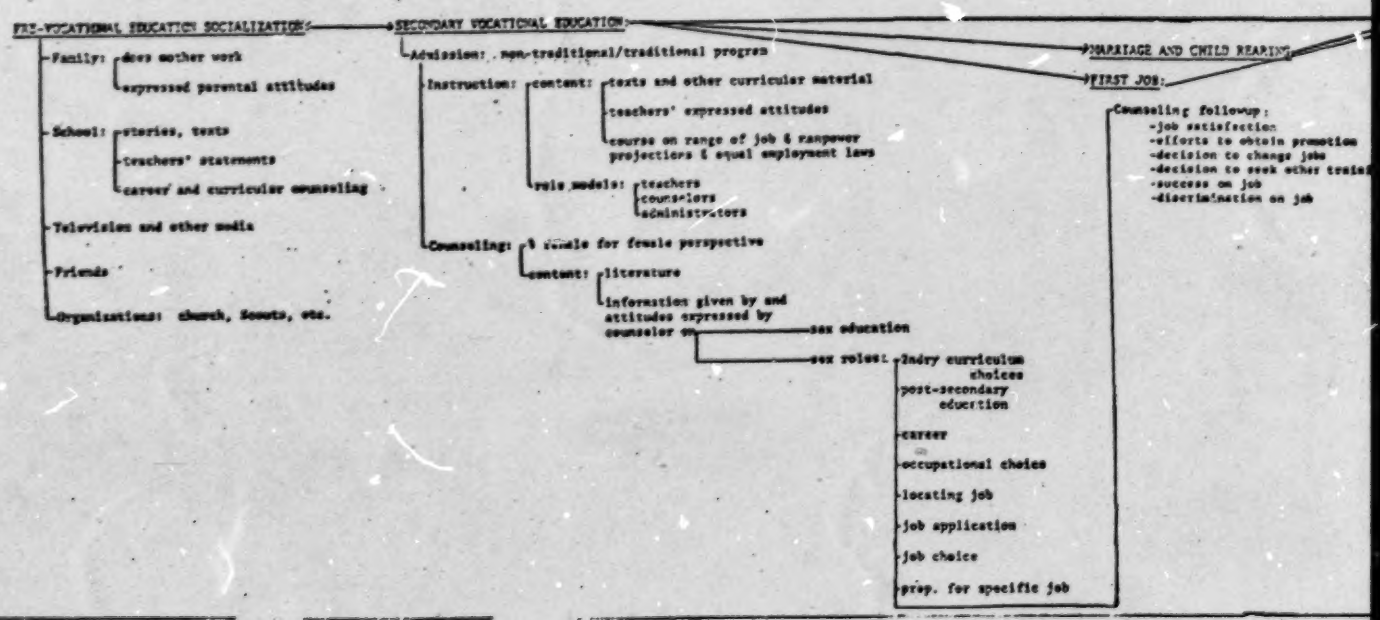
Internalized barriers to women are buttressed by and buttress institutional barriers. Institutional barriers refer to those organizational patterns and practices in vocational education which hinder or halt female students in their efforts to obtain a variety of types of vocational education including preparation for technical jobs, the trades, and industry. These institutional barriers include practices pertaining to the admission of girls to traditionally male vocational education courses, and schools, and of pregnant girls to vocational education of any type; to the sexist manner in which some instructors stereotype the content of their courses as "masculine" or "feminine"; to the composition of faculties, counselors and administrators; to the inadequate job counseling given girls; to the granting of financial aid in post-secondary vocational education programs; and to inadequate child care for the children of students.

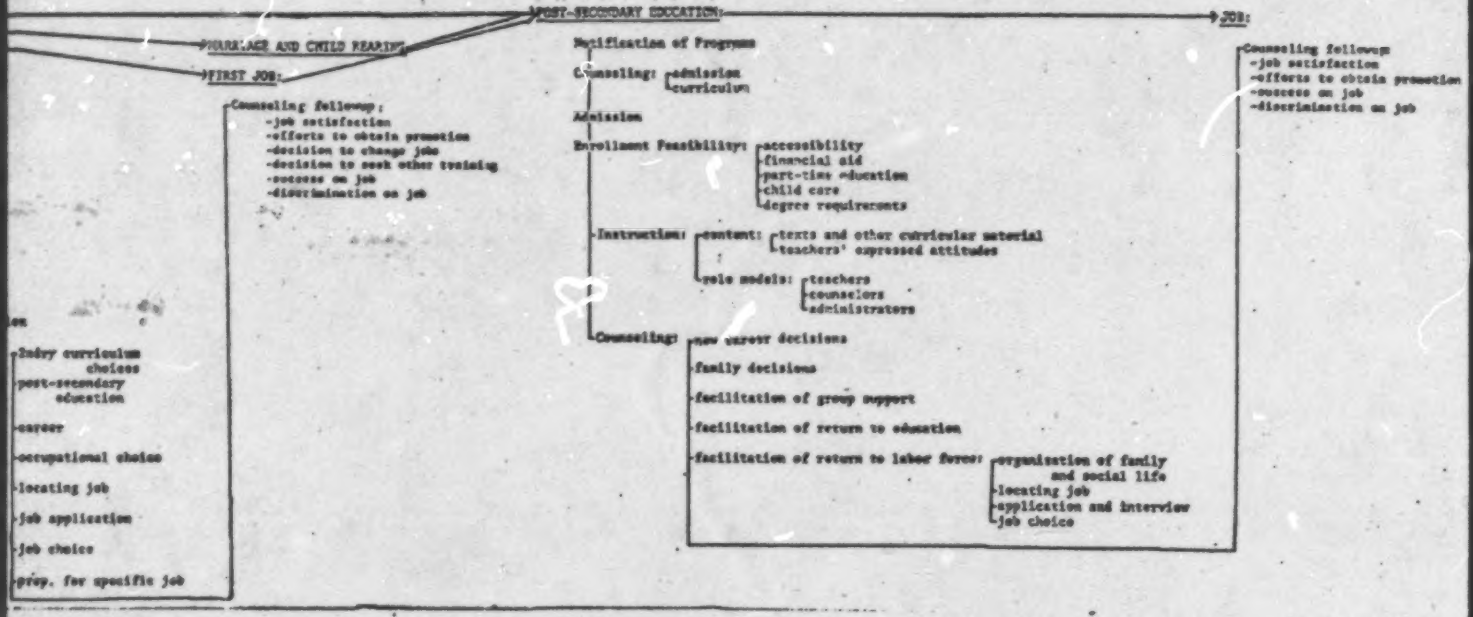
In the paragraphs to follow we will trace the paths open to vocational education students. For each path we will examine barriers to women, review vocational education research related to the barriers and suggest research and development projects to overcome the barriers. Chart 1 diagrams the steps in the vocational education process at which educators and others may intervene to expand vocational opportunities for women.

Admission

The first hurdle which confronts girls and women seeking vocational education is that of admission. Females of course must fulfill all the admission criteria concerning intelligence and educational experience normally required of men. In addition, however, female applicants frequently find themselves faced with barriers

CHART 1: VOCATIONAL EDUCATION PATHS AND KEY FACTORS IN CURRICULAR DECISIONS AND CAREER DEVELOPMENT OF GIRLS




POST-SECONDARY EDUCATION:
JOB:
MARRIAGE AND CHILD REARING:
FIRST JOB:
Counseling followup:
-job satisfaction
-efforts to obtain promotion
-decision to change jobs
-decision to seek other training
-success on job
-discrimination on job
Notification of Programs
Counseling: admission
curriculum
Admission
Enrollment Possibility: accessibility
financial aid
part-time education
child care
degree requirements
Instruction: content: texts and other curricular material
teachers' expressed attitudes
role models: teachers
counselors
administrators
Counseling: new career decisions
family decisions
facilitation of group support
facilitation of return to education
facilitation of return to labor force: organization of family and social life
locating job
application and interview
job choice
Counseling followup
-job satisfaction
-efforts to obtain promotion
-success on job
-discrimination on job
2ndry curriculum choices
post-secondary education
-career
-occupational choice
-locating job
-job application
-job choice
-prep. for specific job

never experienced by men during the admission process. Jack Conrad Willers, Professor of Education at the George Peabody College for Teachers has observed that "the most obvious and common sexist school practice is to track male students into industrial arts, agriculture and technical trades, and female students into homemaking, health occupations, and business. High school girls receive vocational training which prepares them for a very limited range of careers, usually those with low pay potential, or even no pay as housewives."[33]

Despite the federal law against sex discrimination in vocational education, tracking of girls often occurs because schools are for boys only, or because male teachers simply refuse to allow girls in their classes. Peter Holmes, Director of the Office of Civil Rights of the U.S. Department of Health, Education and Welfare recently reported findings of his office's survey of area vocational schools. These showed that:

> ...(a) chronic problem in area vocational schools is the separation of programs and courses by sex. Even more serious is the existence of vocational schools that accept only students of one sex. So far the survey has identified 17 single-sex institutions and I estimate we will have reports on about 40, most of them in the Northeast where like other parts of the nation, some traditions do not change easily. Title IX of the Education Amendments provides for the elimination of vocational school policies that discriminate on the basis of sex. Their eligibility to participate in Federal programs is in danger until they adopt acceptable plans to transform themselves into institutions that admit both sexes without bias. ...The other aspect of sex discrimination in vocational schools has to do with segregation by course. Of the 1000 (Office of Civil Rights institutional questionnaire) forms surveyed so far, nearly all listed at least one course that was exclusive to one sex and nearly 60% reported that a majority of the course programs in the school were exclusively for males or exclusively for females.[34]

Furthermore, the General Accounting Office's 1974 report on Vocational Education described the following:

> Title IX of the Education Amendments of 1972 prohibits discrimination in education on the basis of sex, but in several States we noticed practices that could discourage deviation from traditional roles. For example:

--Catalogs describing vocational programs used the exclusive pronoun 'he' when referring to course requirements in almost all subjects, and the exclusive pronoun 'she' when describing secretarial and nursing courses. Vocational officials agreed that potential students studying this material might get the impression that courses were restricted to members of one sex.

--Sometimes classes were physically located in a manner which could encourage sex role stereotyping. In one secondary area vocational school, clerical, health, and cosmetology courses were offered in one building and all other courses in an adjacent building. Female students questioned by us about their vocational interests said the courses they were taking did not necessarily coincide with what they hoped to do later. They said their choices for training were limited because girls were not allowed in the 'boys' building. The school director agreed that girls might get that impression but said that girls could apply for courses offered in the other building.[35]

Tracking of girls also results from counselors advising girls not to take traditionally male courses of study and from counselors failing to help girls reevaluate their sex stereotypes concerning curriculum choices. Table 1 shows that as a consequence of all these forms of tracking, although the distribution of female secondary-level vocational education enrollees among program areas came to be slightly less stereotyped between 1969 and 1972, much progress must be made for female and male students to be equitably distributed among program areas. Marilyn Steele has pointed out that the concentration of women within this narrow range of programs is discriminatory not only because it results in women having considerably lower wages than male vocational education graduates but because the program areas in which women are concentrated have a much higher student/faculty ratio and lower per student expenditures than those in which men are concentrated and girls may consequently have less opportunity for instruction from teachers.[36]

TABLE 1: Females as a Percentage of Total Secondary-Level Vocational Education Enrollees for Each Program Area, 1969 and 1972

	FEMALES AS % OF ENROLLEES		DISTRIBUTION OF FEMALES 1972		
	1969*	1972**	PERCENTAGE*** Includg. Homemaking	PERCENTAGE*** Gainful	NUMBER****
Agriculture	1%	6%	1%	1%	48,153
Distributive Education	50	52	5	8	290,020
Health	96	81	4	8	285,071
Home Economics: Homemaking	97	90	45	-	2,916,987
Home Economics: Gainful	97	85	4	7	240,948
Office/Business	88	83	28	51	1,796,387
Technical Education	8	12	1	1	33,006
Trades/Industry	14	14	4	8	279,680
Special Program	—	—	9	17	582,715
TOTAL: Incldg, Homemaking	51%	55%	101%		6,422,115
TOTAL: Gainful		40%		101%	3,505,128

*Source: Office of Education, U.S. Department of Health, Education and Welfare, Vocational Education: Characteristics of Teachers and Students, 1969 by Evelyn R. Kay, Washington, D.C.: U.S. Government Printing Office, 1970, p. 9.

**Source: Office of Education, Vocational Education: Characteristics of Students and Staff, 1972, op. cit., pp. 57, 11.

***Source: Calculated from Bureau of Adult, Vocational and Technical Education, Summary Data: Vocational Education, Fiscal Year 1972, Washington, D.C.: Office of Education, U.S. Department of Health, Education, and Welfare, May 1973, p. 2.

****Ibid., p. 2.

Quoting from a 1974 speech by HEW's Acting Assistant Secretary of Education, the GAO report identified the consequences of these forms of discrimination:

> In one city the average expected wage for trades learned by girls was 47 percent lower than for trades learned by boys. So not only were students channeled into traditionally male or female jobs, but girls were guided into employment at lower income levels.[37]

Stringent enforcement of the law rather than research is needed to end these forms of sex discrimination, and the U.S. Office of Civil Rights has only begun to enforce the law. In an effort to obtain enforcement of the law, the Women's Equity Action League and numerous other women's organizations and individual women have filed suit against officers of federal agencies who are responsible for enforcing the laws, Title IX, Titles VII and VIII and the Fifth Amendment to the Constitution, which require that federal funds not be extended to educational institutions which have employment practices and education policies which discriminate on the basis of sex.[38] Adequate enforcement of these laws will require that a large number of professional and clerical personnel be added to the 847 professional and clerical workers who now staff the central and regional offices of the U.S. Office of Civil Rights and that the enforcement budget be increased.[39]

Pregnant girls are confronted by additional barriers when they seek to remain in or be admitted to secondary vocational programs in many parts of the nation. Only anecdotal information is currently available on the extent to which pregnant, physically able, girls are refused admission to or retention in secondary vocational programs. Research is needed to document this area of sex discrimination. Law enforcement must follow.

At the post-secondary level the admission process is more complex. Potential post-secondary female applicants are not sitting in school ready to simply enter one course of study or another. Instead they are scattered. Some are in public

schools. Some are employed. Some are full-time housewives with infants or toddlers. Others have reared their children. Consequently, the first major question involved in the admission process of post-secondary vocational education programs is, who is notified of the program? Ignorance of a program's existence frequently prevents women from participating in it. The means by which post-secondary programs are publicized naturally affect who learns about them. If the publicity about a program is relayed primarily through announcements in secondary schools and workplaces, it is less likely to reach unemployed housewives than if it is relayed through posters in laundermats and churches, P.T.A. newsletters, television advertisements, or articles in the women's section of local newspapers. Likewise, at the workplace, publicity about vocational education programs is less likely to reach women if it is related through posters placed in those areas of the shop where men traditionally work than if posters are placed in all women's as well as all men's restrooms. Florence Mintz's demonstration research project on "The Development of a Model for the Recruitment of Mature Women in Traditionally Male-Oriented Occupational Education Programs" made concerted effort of the type which is needed in the area of publicity. It utilized a multi-media approach including newspapers, brochures, direct mailings, radio and television to recruit mature women (over age 30) into the drafting and design program of the Union County Technical Institute in New Jersey. The drafting and design program was chosen because women currently constitute only four percent of the total drafting and design workforce and the field is expected to have rapid growth. Among the catchy announcements for the program was the following:

BORED? TRY A DRAFTING BOARD!

Is there a career area that is looking for women?

YES!

Can a woman with home and family responsibilities train for that career?

YES!

Are there real jobs available for women?

YES!

Union County Technical Institute wants WOMEN in the

MECHANICAL TECHNOLOGY PROGRAM
(Drafting and Design).....[40]

The second question relating to post-secondary admission is, what impression does publicity concerning the program and the program itself make on its female audience? Are only men pictured on the posters? Is the word "he" but not "she" used to describe applicants? Has word gotten out that women students are ridiculed in particular programs? The third question is, how do post-secondary vocational education admissions counselors advise women of various backgrounds? Do they recommend that mothers with young children not enter the program? Do they tell women "of course you can enroll in the industrial course, but I don't know why a good looking girl like you would want to?" The final question is, as at the secondary level, simply whether teachers and admissions officers will admit women to traditionally male courses of study.

Enrollment

Following admission, women are confronted by a series of questions affecting the feasibility of their enrolling in a post-secondary vocational education program. Mothers are the hardest hit. Many women, especially those who are not part of a "two car family," may be barred from post-secondary programs by the schools' physical inaccessibility or inconvenient hours of operation. Locating programs near public transportation lines and decentralizing the operation of programs would enable larger numbers of women to take advantage of them.

Financial aid and child care are also crucial problems confronting many women who would like to enroll in post-secondary vocational education. Financial aid

is a need of men as well as women, but because of cultural child rearing traditions, child care problems fall disproportionately on female potential students. In order that mothers of young children may have an equal opportunity to attend post-secondary vocational schools, the schools should provide child care at low or no cost. For the same reason, part-time education should be an option in all areas of vocational education. Finally, because wives traditionally follow their husbands, female students must move from city to city more often than male students. Post-secondary education programs should have interchangeable degree course credit requirements so that women who must move from institution to institution will not be discriminated against by having to undertake a new set of degree requirements each time they move. The enrollment issues discussed above relate primarily to women interested in attending post-secondary vocational education programs, but they are increasingly affecting women who wish to complete high school programs and should therefore be of concern to secondary as well as post-secondary administrators and planners.

Instruction

In school, students learn from the content of texts and other curricular material, from the information teachers convey and the attitudes they express, and from observing the role models who are available to them. Following a survey of secondary school curriculum, Janice Law Trecker concluded:

> In perhaps no other area of the curriculum is there more need for non-stereotyped information and for positive role models for young women than in vocational training and career education... traditional stereotypes about the proper work for women have combined with overt economic discrimination to greatly restrict the aspirations and opportunities of the female secondary school student. ...materials and programs which might enlarge the career possibilities and raise the aspirations of young women should be a high priority item in any responsible school program.[41]

Under a federally funded research project, vocational education texts and other curricular material ought to be systematically screened for sex stereotypes and

other forms of sexism. Those which are found to be sexist should be replaced. Revised editions of trade, technical, industrial, agricultural and home economics curricular materials which are free of sex stereotypes should also be developed and published.

Students' first year of secondary vocational education should include a course on the changing career patterns of women in the United States; on manpower projections and their implications for students' occupational choices; on the wage differentials of various occupations; and on federal and state equal employment laws. A Working Woman's Guide to Her Job Rights published by the U.S. Women's Bureau is a useful basic text for the latter part of the course.[42]

Students learn as much and perhaps more from an off-handed joke or a disparaging remark by a teacher as from the lesson he or she has planned. Over the last decade, teachers and others have fortunately begun to feel that racist jokes are inappropriate and harmful. Teachers must now be made aware that sexist jokes and comments are also inappropriate, harmful, and, when said in school, contrary to the non-discrimination clause of the 1972 Education Act quoted above. Inservice training programs should be developed for teachers, counselors and administrators on the changing career patterns of women, women's vocational training needs, the problem of sex-role stereotyping, and means by which they may improve their educational and counseling programs for women.

Students also learn by simply observing who their administrators and teachers are. The absence of women in administrative postitions and even in faculty positions outside of home economics, health and business related vocational programs serves as a silent but potent message to female students that "aiming high" would be foolish indeed. In public community junior colleges, Elizabeth Camp King has found, that women comprise approximately 29% of the total faculty and that 92% of the female

vocational education faculty is concentrated in health (57%), business (28%), and home economics (7%).[43] The other vocational programs--agriculture, distribution, technical, and trades and industry--are dominated by male faculty.[44] At the secondary level, Table 2 shows that although nearly equal numbers of men and women are vocational educators, male and female teachers are distributed very differently among the eight major teaching areas.

TABLE 2: Estimated Number and Percent Distributions of Vocational Education Teachers in Secondary Schools Systems, by Teaching Area and Sex, 1972-73:*

TEACHING AREA	MALE NUMBER	MALE PERCENT	FEMALE NUMBER	FEMALE PERCENT	ALL TEACHERS NUMBER	ALL TEACHERS PERCENT
TOTAL	55,700	50.9	53,700	49.1	109,400	100.00
Trades/industry	28,400	89.3	3,400	10.7	31,800	29.1
Office/business	6,900	28.2	17,600	71.8	24,500	22.4
Home economics (homemaking)	300	1.3	22,100	98.7	22,400	20.5
Agriculture	10,500	100.0	(**)	(***)	10,500	9.6
Distributive education	5,700	77.0	1,700	23.0	7,400	6.7
Home economics (occupational)	100	1.8	5,500	98.2	5,600	5.1
Technical education	3,400	98.5	400	10.5	3,800	3.5
Health	400	11.8	3,000	88.2	3,400	3.1

*Source: Office of Education, Vocational Education: Characteristics of Students and Staff, 1972, op. cit., p. 37.[45]

**Unweighted number less than 10.

***Less than 0.05 percent.

At high administrative and advisory council levels, women appear in only token numbers. In a random sample of 400 area vocational school directors, Sites found that men comprised 93 percent of the directors.[46] Also no woman is currently employed as a State Director of Vocational Education or as a state supervisor outside of the fields of business, distribution, health and home economics.[47]

The development of vocational education personnel is provided for in Part F of the 1967 Educational Professions Development Act (EPDA) and Title II of the 1968 Vocational Education Amendments. The legislation provided for "leadership development awards" for individuals to undertake graduate work in such areas as administration, supervision, teacher education, research and curriculum development "in order to meet the needs in all the States for qualified vocational education personnel" (Section 552)[48] and for grants to State boards "to pay the cost of carrying out cooperative" projects "for the training or retraining of experienced vocational education personnel such as teachers, teacher educators, administrators, supervisors, and coordinators, and other personnel, in order to strengthen education programs and the administration of schools offering vocational education." (Section 553)[49] In 1970-72, the leadership development awards were for three-year doctoral studies; in 1973, they were used for one-year leadership development programs. Eleven institutions of higher education received initial 552 grants as well as State grants for 553 programs.[50] No females or minorities were represented among the program directors who in all eleven institutions were selected from the ranks of existing staff.[51] Similarly, the state coordinators of the Section 553 cooperative training projects were all majority males in each of the 11 states with institutions administering Section 552 leadership development programs.[52] Few of the Section 553 training project funds were spent on the special needs of women in vocational education.[53] Table 3 shows that of the 160 participants in the eleven initial three year EPDA doctoral programs 20 or 12.5 percent were women and that of the 56 participants

in the seven subsequent three year EPDA doctoral programs 16 or 28.6 percent were female. Women comprised a considerably higher percentage of the participants of the less prestigious one year EPDA graduate programs (25.4% in FY 1973 and 42.4% in FY 1974).

TABLE 3: Participants in the Leadership Development Program, Authorized by the Educational Professions Development Act (EPDA), Part F, Section 552:*

Length of Funded Project	No. of Institutions	Fiscal Year(s)	Total No. of Participants	No. Female	% Female
3-year (doctoral)	11	FY 70-72	160	20	12.5%
3-year (doctoral)	7	FY 71-73	56	16	28.6%
1-year (graduate)	18	FY 73	287	73	25.4%
1-year (graduate)	28	FY 74	347	147	42.4%
		FY 70-74	850	256	30.1%

*Source: Muriel Shay Tapman, Education Program Specialist, Vocational Education Personnel Development Staff, Office of Education, Department of Health, Education and Welfare, letter to Pamela Roby, March 13, 1975. Note: Fiscal year 1974 funds were utilized for programs which began in September, 1974, and terminate August, 1975.

Although women comprise over 50% of the voting population in every state of the union, fewer than 17% of the national and state vocational education advisory council members are women. One hundred and forty nine women and 862 men were members of the 50 state advisory councils on vocational education in 1974.[54] Three women (only one of whom was employed) and 18 men comprised the National Advisory Council on Vocational Education in 1975.[55] The Vocational Education Amendments of 1968 specify that the "council shall include persons--

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Nonetheless, the importance of the attitudes and information male as well as female counselors convey to female students cannot be overemphasized.[58] Like teachers, counselors may have an impact on girls' self-esteem, a variable which has been found to correlate with females' choice of a male-dominated occupation, regardless of race or level of educational ambition.[59] Counselors relate information and attitudes to students by word of mouth, through the tests and career interest inventories they use, literature they distribute and the films they show. All counselors who use or administer career interest inventories should familiarize themselves with and follow the National Institute of Education's recently developed "Guidelines for Assessment of Sex Bias and Sex Fairness in Career Interest Inventories."[60] The literature and films used for counseling purposes should be "content analyzed" for sex bias. The omission of information concerning recent equal employment laws, opportunities for women in traditionally male occupations, and concerning family planning may be as harmful as outright sexist pictures or remarks. The color film on women in apprenticeable occupations entitled "Never Underestimate the Power of a Woman" which was produced by the U.S. Department of Labor sponsored Wisconsin Women in Apprenticeship Project and is available from the Wisconsin Employment Service should be considered a must for mature women about to make vocational education choices. Similar films should be developed for high school age girls (the Wisconsin film portrays only women who are in their thirties or older).

Although guidance literature and films are important, counselors and other advisors convey information and attitudes to students primarily by word of mouth. For both females and males in secondary and post-secondary vocational education, sex education is an important part of career counseling. Without it, girls and young women all too often unexpectedly embark on child raising careers when they

are neither prepared for motherhood nor for a career in the labor force to follow or supplement motherhood.[61] Boys, although less affected than girls, often drop out of school in an effort to support their young families.

Vocational counseling for labor force participation involves advising concerning at least a half dozen career related student decisions and actions at both the high school and post-secondary levels. For secondary school girls, these decisions and actions include curriculum choices, the decision to undertake immediately or to delay post-secondary education, selection of and application to a post-secondary institution, the decision to pursue a career in the labor force or to become a full-time homemaker, occupational choices, location of potential jobs, application and interviews for jobs, and selection of a job for various job offers.

Sex stereotyping and partriarchal attitudes may creep into the counseling process at any stage. Willer has advocated that:

> ...Career educators can and should develop new curricular resources at all learning levels that do not through ingnorance or thoughtlessness reinforce sexist standards and sex-role stereotypes. Vocational counselors particularly will have to be reeducated through inservice remedial programs. Vocational programs must be 'destereotyped' from top to bottom.[62]

What might non-sexist vocational education counseling look like? What research is needed to develop it? Kaufman's 1966 study provides considerable information concerning girls' high school curriculum choices. In Kaufman's sample, well over a third of the girls in vocational programs said that they received no guidance in course choices.[63] Despite long range projections predicting a surplus of beauty operators in some communities, nothing had been done to curtail cosmetology enrollments.[64] Furthermore, twice as many boys (39%) as girls (18%) said they selected their courses because they were interested in the subjects. Kaufman interpreted this finding as probably reflecting the limited offerings open to girls.[65]

Now nearly a decade has passed and the Kaufman study needs up-dating. A new study should devote more attention to the process of counseling, to exactly how counselors and teachers advise students, and to what aspects of the counseling process most influence students.

In June 1974 Jacob Kaufman and Morgan Lewis, both of Pennsylvania State University's Institute for Research on Human Resources, began a study of "nontraditional vocational education programs for women." The project is addressed to the role vocational education can play in expanding the occupational opportunities available to young women. It proposes to locate and compare 10 secondary school vocational education programs which have succeeded in preparing young women for occupations which are traditionally considered as appropriate only for males. The data collected will be analyzed to attempt to identify any common factors or conditions which appear to be essential to the establishment of nontraditional programs for young women. In this effort the researchers will survey all state vocational education directors to find such secondary programs. During the first month of the project, 10 states were contacted and none were found to have such programs in operation. Most replied that they had recently begun to think about the need for this type of program.[65]

How might vocational education counseling be improved for female students? At a very minimum, counselors should be encouraged or required to attend summer institutes or in-service training programs on equal employment laws and on means of extending equal educational and employment opportunities to women. Also experimental demonstration research projects are obviously needed in vocational education counseling in order to find the best means of helping junior and senior high school girls consider a wide range of job possibilities, and of assisting them in selecting courses which will have long range usefulness.

Post-secondary vocational education considerations arise concurrently with or shortly after curriculum decisions. Although, as noted above, nearly two-thirds of high school vocational education students are female, slightly under 40% of post-secondary education students are female. Kaufman et al. found that at each I.Q. level a significantly larger percentage of males than females received post-secondary vocational training or education.[67] High school vocational counseling, cultural traditions and lack of money probably account for the low proportion of girls who continue their education or training.

Considerations concerning the pros and cons of gainful employment, of course, affect girls' post-secondary education decisions, and are also part of the junior high and early high school counseling and decision-making process. Vocational education career counseling should include guest lectures by women (preferably by ones who have children and ones who do not, by single as well as married women) who are employed in a wide range of traditionally male and traditionally female occupations and by women who are under- or unemployed. The lecturers should be encouraged to discuss their reasons for working, their difficulties in locating an appropriate and adequately paying job, the nature of their jobs, their wages and benefits, and how they combine their work and home responsibilities. In many communities, chapters of the Coalition of Labor Union Women will happily recommend women as guest lecturers. Consciousness raising groups among vocational high school girls are also excellent means of enabling female students to discover for themselves who they are and what they personally want to do with their lives. The formation of these groups should initially be assisted by a woman experienced with them. In most communities, the Y.W.C.A. or chapters of the National Organization for Women will happily recommend women to help start consciousness raising groups. In localities where such guest lecturers and groups have not been considered previously

as part of the vocational education career counseling process, demonstration projects involving both should be undertaken in order to plan and pave the way for their wider use.

Once a girl has decided to have a career in the labor force, she must think about the type of occupation she would like to prepare for and enter. At this point in the counseling process, numerous barriers join together to inhibit girls in thinking flexibly about their choice of occupation and to discourage them from choosing a better paying career. Girls arrive at this point in their decision-making process with the internalized barriers described above and find that the curriculum, also described above, is limited for females. Extremely limited occupational counseling is added to these difficulties. Over two-thirds of the girls in Kaufman's sample of vocational education secondary students reported receiving no guidance whatsoever on their job plans.[68] The occupational counseling which is offered is generally ill-informed. Indeed, as Bailey and Stadt point out, the knowledge base required for effective, informed occupational advising of girls has yet to be developed. They explain that "major theoretical formulations have not distinguished between the sexes, and empirical tests of these theories have been limited almost entirely to boys and men. Only a few studies have approached female vocational behavior from the standpoint of the currently accepted theories."[69] Certainly, as McAlister as well as Bailey and Stadt suggest, research should be undertaken on the manner in which females make career decisions and on how career advising processes for girls and women may be improved.[70]

Improved career advising for girls, Bailey and Stadt suggest, should begin with the concept of total life planning. Since, they write, a shift has occurred from the "traditionally organized family where the husband was the sole breadwinner

and the wife was the sole homemaker, to multiple-role families in which both partners share responsibilities for the household tasks and for earning...young women need to prepare for multiple roles during different periods of their lives."[71] Girls should also be given the opportunity to consider being and to prepare for being single most or all their lives. Bailey and Stadt recommend two areas of attack for changing deeply ingrained occupational sex-role stereotypes. The first is to expose myths about women. The U.S. Department of Labor's handout entitled "The Myth and the Reality" provides accurate information in a readable form about such myths as "women work only for 'pin money'," women cost companies more because they are "ill more than male workers," and "men do not like to work for women supervisors."[72] The second area of attack is "expansion of educational programs and services to help girls and women become aware of the broader opportunities open to them." In this area, they suggest consciousness raising groups, also recommended above, and point out that these groups expedite "recognition of the fact that many of women's problems are universal and not individual" and that this recognition significantly accelerates "individual discovery and self-development."[73] These groups should be supplemented by occassional meetings with an outside counselor armed with informational brochures and slideshows, etc. concerning vocational and educational opportunities.

I would add six suggestions to these areas of attack. First, that vocational education counselors should provide girls with tours of a variety of vocational classrooms and visits to a variety of industries so that they may learn not only about the nature of specific jobs but also what are the better and poorer paying jobs and better and poorer paying industries.[74] Although boys are generally better informed than girls about industrial and other jobs, such tours would also be useful to many of them. Second, counselors should also assure that girls and women know

for what occupations a need will exist 5, 10 and 20 years from now. Third, because we do not know which aspects of internalized sex role stereotypes dampen girls' motivations to pursue traditionally male careers, imaginative research is needed on the relative weights of various stereotypes and how they might be overcome. For example, a series of posters showing women in different kinds of work with various kinds of slogans could be tested for varying responses among girls of differing ages.[75] Fourth, girls and women already in a traditionally male vocational education programs should serve as "big sisters" to those who are newly entering the program. Occasionally the big sisters might meet together, perhaps with a counselor who can provide occupational and other information, in order that the women may have group as well as individual support. Fifth, simulated job experience programs like those developed by John Krumboltz, et al, in accounting, medical laboratory technology, X-ray technology, sales and banking should be developed for girls and women in job areas in which expansion is projected and women seldom have first hand experience. The Krumboltz Career Kits present problems "typical of those encountered by workers in the five occupations. The materials present the information necessary to solve the problems," give "subjects an opportunity to solve the problems," and allow "them to compare their answers with the correct ones." The Krumboltz Kits "consistently produced more interest and more occupational information seeking" among students than control treatments.[76] Finally, Joseph Champagne has pointed out that in order to insure the acceptance of such a counseling and educational program by parents and community members, counselors must educate both groups about the need to open traditionally male occupations to women. Open houses for and meetings with parents; addresses to community groups; television, radio and newspaper exposure, film and/or slide presentations and the distribution of informational brochures may all be useful in this effort.[77]

Once women have chosen and prepared for an occupation, most want to find a job. In many communities, despite equal employment laws, few jobs are available to women in traditionally male occupations. Kaufman's study has shown that men are considerably more likely than women to obtain their first job through a personal or family friend.[78] Because this "old boy" system maintains old prejudices and because many employers still have sexist inclinations of their own, vocational education counselors should develop strategies to encourage local employers to hire women and to increase the number of women they hire directly from vocational education schools for nontraditional occupations.

Along with increasing employers' willingness to hire women and helping women students to find jobs, counselors should teach students techniques of applying and interviewing for jobs. Because of their early socialization, many women are overly modest about their abilities. They must be taught that a bit of honest boasting is called for on job applications and in interviews.

After female students have received several job offers, they need the assistance of counselors in learning how to evaluate various jobs and to choose the position which is best for them. Where possible, counselors should also encourage local industries or unions to establish big sister programs in traditionally male occupational areas. The big sisters, women experienced in a job area, can assist the vocational school graduates through their first weeks on their new jobs. Once female vocational school graduates have worked several months in traditionally male jobs, counselors should give them a follow-up call to learn how they might improve their counseling for other female students who wish to enter similar positions, and to assist the graduates with sex discrimination or other problems they may be facing on the job.

Post-secondary vocational education counselors have additional responsibilities to female students. Many women are ready to make new career decisions by the time they enter post-secondary schools. Because of their return to school, most must also do new organizational planning for their families. Female post-secondary students need occupational counseling similar to that discussed above for secondary students. In addition, most women who have returned to school after a period of being a non-student need special support. Counselors may assist them in reorganizing their families around their new student status, in returning to school, and is eventually returning to the labor force by facilitating the formation of groups of similarly situated women who can help one another through exchanging experiences. A school lounge of their own is especially important for women who may feel uncomfortable with or tire of students 10, 15 or 20 years younger than themselves.

Summary and Recommendations

In summary, this paper has found that despite the vastly increased sums spent on vocational education during the late 'sixties and early 'seventies and despite the national legislation which reaffirmed women's right to equal education opportunity; women continue to be very underrepresented on vocational education advisory councils, in administrative positions, in administrative training programs, and on faculties in areas outside of those which are traditionally stereotyped as female; thousands of female students are barred from sex segregated vocational education schools and classes and most others are actively discouraged or not encouraged to take courses leading to the higher paying jobs which have been traditionally stereotyped as "male"; and only a miniscule amount of research is currently being devoted to discovering and developing means of increasing vocational education's benefit to women.

Both this nation's need for women to be trained for jobs which will enable them to be self-supporting and federal civil rights laws mandate that steps be taken immediately to guarantee equity for women in vocational education. Toward this end, I recommend the following actions:

Federal Laws:

Appendix A provides an outline of the "Vocational Education Amendments of 1968."

-Section 101 (the "Declaration of Purpose") of the Vocational Education Amendments of 1968 should be amended to state that "persons of both sexes shall be given equal educational opportunities in all areas of vocational education."

-Section 104 ("National and State Advisory Councils" - subsections (a) (1) and (b) (1)) of the Amendments should be amended to state that the National and the State Advisory Councils on Vocational Education "shall include persons; a) who are experienced with and knowledgeable about the special problems women must confront in vocational education, and b) who are representative of women."

-Section 105 ("Federal Administration") of the Amendments which states:

> Nothing contained in this title shall be construed to authorize any department, agency, officer, or employee of the United States to exercise any direction, supervision, or control over the curriculum, program of instruction, administration, or personnel of any educational institution or school system.

should be amended to include the caveat, "except when the actions of the latter are harmful to a particular class of people."

-Section 106 ("Labor Standards") which states:

> All laborers and mechanics employed by contractors or subcontractors on all construction projects assisted under this title shall be paid wages at rates not less than those prevailing as determined by the Secretary of Labor in accordance with the Davis-Bacon Act, as amended (40 U.S.C. 276a-276a-5).

should be amended to also state, "and shall be hired, promoted and paid wages without regard to sex, race, color, religion or national origin."

-Section 107 ("Limitation on Payments Under This Title") should be amended to include a subsection (c) which states: "Nothing contained in this title shall be construed to authorize the making of any payment under this title for sexually segregated instruction, or for the construction, operation, or maintenance of any facility which is used or is to be used for sexually segregated instruction."

-Section 122 ("Uses of Federal Funds"), subsection (a) (6) ("Grants to States for Vocational Guidance and Counseling") should be amended to specifically authorize, as Steiger has recommended, the use of funds to educate guidance counselors about the changing work patterns of women, to train them in ways of effectively confronting occupational sex stereotyping and of helping girls and women base their career choices on their occupational needs and interests rather than on sex stereotypes,[79] and to develop career counseling materials which are free of sexual bias.

-Section 122 (a) (8) should be amended to specifically authorize the use of funds for the development of curriculum materials and inservice training programs to overcome sex bias in vocational education programs and to enable teachers to provide support services to persons enrolling in vocational education programs traditionally limited to the opposite sex.[80]

-Section 122 (b) should be amended to authorize one hundred percent Federal funding to states for the establishment of an Office fo Women within the State Departments of Vocational Education which would a) gather and analyze data on the status of female and male students and employees throughout the state vocational education system; b) coordinate actions to correct the problems uncovered by the data analysis; c) oversee the dissemination of grants by the State Department of Vocational Education and assure that women's interests and needs are addressed by the projects funded; d) review all vocational education programs in the state for sex bias; e) oversee and prohibit sex discrimination in all hiring, firing and promotion procedures

within the State vocational education system; f) review and submit recommendations for the annual State Vocational Education Plan; g) assist local school systems and others in the state in improving vocational education opportunities for women, and h) develop an annual report on the status of women within the State's vocational education system; submit it to the State Commissioner of Vocational Education, the State Board of Vocational Education, the State and the National Advisory Councils on Vocational Education, the State Commission on the Status of Women, and the Commissioner of the U.S. Office of Education; and make it available to all interested parties.[81]

-Section 123 ("State Plans") subsection (a) (3) which reads:

> Any State desiring to receive the amount for which it is eligible for any fiscal year pursuant to this title shall submit a State plan at such time, in such detail, and containing such information as the Commissioner deems necessary, which meets the requirements set forth in this title. The Commissioner shall approve a plan submitted by a State if he determines that the plan submitted for that year... (3) has been submitted only after the State board...

should be amended to also state: (C) has assured the review of the Plan by the Office for Women of the State Department of Vocational Education, has itself given due consideration to the needs of female students, and has assured that all programs and projects included under the plan are designed to attract persons of both sexes and that no sex stereotyping exists in the programs and projects included under the plan.

-Section 123, subsection (a) (6) should be amended to specify that at least five percent of Part B funds must be set aside for a State incentive program for local school districts to encourage the schools to overcome sex bias in vocational education, and that States must include a design for this incentive program within their State Plan.

-Section 123, subsection (a) (17) should be amended to require the submission of employment and enrollment data by sex and race for all vocational education programs.

-Section 131 ("Research and Training in Vocational Education - Authorization of Grants and Contracts") subsections (a and b) should be amended to provide for five

percent of all grant funds to be set aside to be used as incentives to grant and contract recipients to include females in their (i) research and training programs, (ii) experimental, developmental, or pilot programs, and (iii) dissemination of information derived from the foregoing programs or research.

-Section 132 ("Research and Training in Vocational Education - Uses of Federal Funds") should be amended to include a subsection stating that funds may be used to investigate sex bias in the vocational education system; and to develop research; training, experimental, developmental and pilot programs; evaluation, demonstration and dissemination projects and new vocational education curricula and counseling materials designed to equalize vocational education opportunities for male and female students and eliminate sex stereotyping within vocational education.

-Section 133 ("Applications for Research and Training Funds") should be amended to include a subsection (c) stating that the Commissioner shall encourage women to apply for grants and contracts under Part C.

-Section 143 ("Exemplary Programs and Projects" - "Uses of Funds") subsection (a) (2) should be amended to additionally include funding for (F) programs designed to overcome traditional sex stereotyping in vocational education programs, in placement services and in programs and projects to achieve the purposes of this part, including those of manpower agencies and industry.

-Section 143, subsection (b) (1) should be amended to include a provision (D) that effective procedures and policies will be adopted by grantees and contractors to assure that no sex stereotyping exists within their programs or projects including the exclusive use of the term "he" in materials developed under the program or project.

-Section 143, subsection (b) should be amended to include a provision stating (5) that the Commissioner shall encourage women to apply for grants and contracts under Part D.

-Part F: "Consumer and Homemaking Education" should be retitled "Home Economics Programs and Family Life Education."

-Section 161 ("Consumer and Homemaking Education") subsection (b) should be amended to additionally state that for purposes of this part the State plan approved under Section 123 shall set forth a program under which Federal funds paid to a State from its allotment under subsection (a) will be expended solely for (3) educational programs and ancillary services designed to attract students of both sexes.

-Section 173 ("Cooperative Vocational Education Programs" - "Plan Requirement") subsection (a) should be amended to specify that (1) funds will be used only for developing and operating cooperative work-study programs as defined in Section 175 which... are free of sex stereotyping; and (8) accounting, evaluation, and follow-up procedures as the Commissioner deems necessary will be provided including evaluation of the program's benefit to both sexes.

-Section 182 ("Work-Study Programs for Vocational Education Students" - "Plan Requirement") subsection (b) should be amended to state that a work-study program shall... (2) provide that employment under such work-study program shall be furnished only to a student who... (D) has been selected without regard to sex, race, color, religion, or national origin.

-Section 191 ("Curriculum Development in Vocational and Technical Education" - "Authorization") subsection (c) (1) should be amended to additionally state that sums appropriated pursuant to subsection (b) shall be used by the Commissioner... (G) to promote the development and dissemination of vocational education curriculum materials which are free of sex stereotyping and which aid both sexes in learning about a wide range of occupational subjects regardless of the sexual stereotypes previously associated with them, to train personnel in the use of these curricular materials, and to evaluate existing vocational-technical education curriculum materials as to sex bias.

-Section 552 ("Training and Development Programs for Vocational Education Personnel" - "Leadership Development Awards") subsection (a), should be amended to specify that the Commissioner shall make available leadership development awards in accordance with the provisions of this part only upon his determination that...(D) adequate provision has been made for appropriate selection procedures without regard to sex, race, color, religion, or national origin.

-Section 553 ("Exchange Programs, Institutes, and Inservice Education for Vocational-Education Teachers, Supervisors, Coordinators, and Administrators") subsection (b) (2) should be amended to state that Grants under this section may be used for projects and activities such as... (2) inservice training programs for vocational education teachers and other staff members to improve the quality of instruction, supervision, and administration of vocational education programs; to overcome sex stereotyping and sexual biases within vocational education programs; and to raise the career aspiration levels of female vocational educators.

Federal and State Policies and Practices:

-The U.S. Department of Health, Education and Welfare should fully implement the guidelines for Title IX of the Education Amendments Act of 1972 (P.L. 92-318).

-Once the above recommendations for the amendment of the Vocational Education Amendments of 1968 are passed into law, the U.S. Department of Health, Education and Welfare should adopt compliance guidelines in accordance with the full intent of the law; and should quickly begin to implement them.

-The Administration should increase its appropriations for federal and regional enforcement budgets for the U.S. Office of Civil Rights and the U.S. Equal Employment Opportunity Commission to the full amount authorized by the U.S. Congress so that federal civil rights laws may be enforced in vocational education and elsewhere; state administrations should do likewise for the enforcement of state civil rights laws.

-The U.S. Commissioner of Education should take steps to assure that appropriate affirmative action procedures are followed in the hiring and promotion of State Vocational Education Directors, state vocational education supervisors, area vocational school directors, state vocational education coordinators, state Research Coordinating Unit directors, institutional directors of EPDA (Education Professional Development Act) programs, and vocational education teachers and counselors; in the selection and placement follow-up of participants for EPDA programs; and in the selection of vocational education research and training project directors.

-The U.S. Office of Education should develop and distribute a brochure on guidelines fornon-sexist vocational counseling.

-The U.S. Office of Education should development and distribute excellent films for high school girls and their parents on opportunities for women in apprenticeship programs and in tradi.ionally male courses of study and jobs, on women's need for good paying work today, and on equal employment laws and women's job rights.

Local Educational Policies and Practices:

Local policymakers and/or administrators and/or program developers should:

-develop and implement an affirmative action plan;

-locate vocational education programs near public transportation lines and decentralize programs so that women without cars may participate in them;

-provide child care for students and faculty at low sliding scale rates;

-provide adequate financial aid for students who require it;

-provide vocational education opportunities for all pregnant teenagers;

-institute interchangeable post-secondary education degree course credit requirements so that students who must move from institution to institution will not be discriminated against by having to undertake a new set of degree requirements each time they move;

-admit women to all schools and courses for which they qualify;

-provide inservice programs designed to raise the career aspiration levels of female vocational educators;

-examine who is notified of post-secondary vocational education programs and extend publicity to all groups of women currently not touched;

-examine the impression vocational education publicity has upon the women it reaches and revise the materials to attract more women;

-examine all public information materials for sex bias, remove the biases found and assure that no materials use exclusively the term "he";

-screen all curricular and counseling materials and textbooks for sex role stereotypes, oversee the elimination of all stereotyped materials and the substitution of non-stereotyped materials;

-gather and disseminate to teachers and counselors federal, state and other curricular and counseling materials and research findings of use to female students;

-develop a wide range of work-study experiences for female students;

-provide inservice training programs for teachers, counselors and administrators on the changing career patterns of women, women's vocational training needs, the problem of sex-role stereotyping, and means of improving counseling and educational programs for women;

-make teachers aware that refusing students admission to a course and sexist jokes in the classroom are illegal;

-provide a course for all vocational education students on the changing career patterns of women, on manpower projections and their implications for students' occupational choices, on the wage differentials of various occupations and industries, and on federal and state equal employment laws;

-provide a course for all elementary school students on the changing career patterns of women, on opportunities for women in stereotypically male occupations, on the wage differentials of various occupations, and on federal and state equal employment laws;

-guarantee all students curricular and occupational counseling;

-assure that vocational education and occupational counseling given to women with varying circumstances and with and without little children is free of sex bias;

-develop, with school counselors, an outreach program to educate parents, community and business groups about the need to open traditionally male occupations to women;

-actively encourage local employers to hire female vocational school graduates in non-traditional occupations;

-encourage local industries and/or unions to establish big sister programs inwhich women in traditionally male occupational areas serve as big sisters to those newly entering the program;

-develop similar big sister programs in traditionally male vocational education programs.

Counselors in local vocational or comprehensive schools should:

-familiarize themselves with and follow the National Institute of Education's "Guidelines for Assessment of Sex Bias and Sex Fairness in Career Interest Inventories;"

-assist girls and women in re-evaluating their sex role stereotypes regarding their choice of curriculum and jobs;[82]

-assure that girls and women know for what occupations a need will exist five, ten and twenty years hence, and know how to learn about occupational trends and projections;

-ascertain that all female students receive information concerning recent equal employment laws, opportunities for women in traditionally male occupations, and family planning;

-followup female students on their jobs in order to learn how they might improve their counseling for other female students;

-form student support groups of women who have returned to school after several years of absence.

Teachers in elementary and/or secondary schools should:

-provide students with tours of a variety of vocational classrooms and visits to a variety of industries so that they may learn about the nature of specific jobs and about the varying wage rates of different jobs and industries;

-invite women of varying marital and parental statuses who are employed in a wide range of traditionally male and traditionally female occupations and women who are under or unemployed to talk about the nature of their jobs, their wages and benefits, the process by which they have found or are trying to find a job, and their advice to today's students;

-expose sex role stereotypes concerning women in the workforce;[83]

-develop consciousness raising groups for vocational education students;

-use simulated work samples and problems from traditionally male jobs so that female students may familiarize themselves with various types of work and determine their interests in and abilities with regard to various types of work;

-teach students how to look, apply and interview for jobs; and methods of decision making for choosing among a variety of job offers.

Research and Development:

The U.S. Commissioner of Education and State Directors of Vocational Education should:

-assure that a statement that "sex discrimination including sex stereotyping is illegal in any form" is prominantly positioned on all announcements of, applications for, and approvals of research and development grants;

-assure that research is conducted on the relative effectiveness of all development projects related to women in achieving their intended goals and on the impact of all development projects on female students.

The U.S. Commissioner of Education should:

-keep annual status reports on the percentage of research and development grant or contract directors who are women;

-provide for the dissemination of all research findings on means of improving the effectiveness of vocational education for women to all state vocational education directors, all directors of state vocational education offices for women, and all directors of vocational education systems within the United States.

Research and development projects should be conducted and funded to:

-determine how to most effectively recruit women into and keep them in a wide variety of vocational programs which are stereotypically male;

-determine means of most effectively assisting women in making the transition from vocational school to high paying jobs which have traditionally employed few or no women;

-determine the characteristics, including the counseling and educational preparation, of female students who are successful in various traditionally male and traditionally female vocational education programs;

-survey high school students, vocational education teachers and counselors regarding their perceptions of future work patterns of female students;

-determine the availability of vocational education for pregnant teenagers;

-content analyze all vocational education texts, and counseling and curricular materials for sex stereotypes and other forms of sexism;

-develop non-sexist text books, and other curricular and counseling materials for each and every area of vocational education;

-survey male and female elementary, junior and senior high school students to determine in what areas men and women have different levels of information regarding occupations;

-survey persons of both sexes in vocational education programs and jobs traditionally considered the prerogative of the other sex to learn what overt and covert barriers they confront and have confronted;

-determine what positive and negative sanctions occur at various stages of vocational guidance and counseling for persons to consider occupations traditionally considered the prerogative of the other sex;

-study vocational education counseling and instructional processes to determine exactly how counselors and teachers advise female as compared with male students and what aspects of the advising process most influence female students from various racial, ethnic, geographic, cultural and economic backgrounds and of various ages and grade levels;

-determine the effects of different forms of vocational counseling on female students with varying backgrounds, needs and problems;

-through a series of experimental demonstration research projects, find the best means by which counselors and teachers may help elementary, junior and senior high school girls to consider a wide range of traditionally male as well as traditionally female job possibilities, help them select courses which will have long range usefulness, and help them evaluate the desirability of post-secondary education;

-determine the most effective means of overcoming occupational sex stereotypes which dampen girls' motivations to pursue traditionally male careers;

-determine how females varying from age five to fifty-five and from various racial, ethnic, geographic, cultural and economic backgrounds make career decisions;

-develop measures of career development based on samples including adequate numbers of women and minorities of various backgrounds as well as majority males, and follow the samples through their later career development in order to determine the usefulness of the measures;

-determine means of most effectively raising female vocational educators' career aspirations;

-determine means of encouraging and enabling more women to develop and submit proposals for research and development funds;

-determine the most effective means of attracting women from various backgrounds to different traditionally male post-secondary vocational education programs;

-determine the most effective means of teaching elementary school and vocational education students about the changing career patterns of women, the implications of manpower projections for students' occupational choices, and federal and state equal employment laws;

-determine the most effective means of educating parents, community and business groups about the need to open traditionally male occupations to women;

-survey female vocational graduates in a variety of traditional and nontraditional jobs concerning means by which their vocational instruction and counseling might have been improved and how it benefited them;

-determine the most effective means of teaching female students to look, apply and interview for, and begin non-traditional jobs;

-determine the effectiveness of various simulated work samples and problems from traditionally male jobs in familiarizing female students with various types

of work and allowing them to assess their interests in and abilities with regard to various types of work.

Conclusion

Hopefully, federal, state and local legislators and administrators will provide women with equal vocational education opportunities. If they do not, parental groups, women's organizations -- the League of Women Voters, the Coalition of Labor Union Women, the National Organization for Women, the Women's Equity Action League, the Coalition of Neighborhood Women, feminists within the American Vocational Association -- and other concerned groups of citizens will have to take action themselves and replace recalcitrant representatives.

NOTES

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1. I will use the term vocational education as defined by the U.S. Congress in Section 108 of PL 90-576: vocational education "means vocational or technical training or retraining...given in schools or classes...under public supervision and control...designed to prepare individuals for gainful employment as semi-skilled or skilled workers, technicians...subprofessionals in recognized...and in new and emerging occupations or...for enrollment in advanced technical education programs... excluding...professional or...a baccalaureate or higher degree."

2. These figures are for secondary and post-secondary education programs combined. Vocational education enrollments in public secondary schools were nearly 6.4 million in 1972-73. Office of Education, U.S. Department of Health, Education and Welfare, Vocational Education: Characteristics of Students and Staff, 1972 by Nicholas A. Osso, Washington, D.C.: U.S. Government Printing Office, 1974, p. 1.

3. National and State Advisory Councils on Vocational Education, "The Impact of the Vocational Education Amendments of 1968," an unpublished mimeo prepared for the U.S. Congressional Oversight Hearings on the Vocational Education Act, April 1974.

4. The money authorized by the Higher Education Act was specifically for training for "gainful employment as semi-skilled or skilled workers or technicians or subprofessionals in recognized occupations (including new and emerging occupations); it prohibited the funding of programs leading to a bachelor's degree." Jerome Karabel, "Protecting the Portals: Class and the Community College," Social Policy, Vol. 5, No. 1, May/June 1974, p. 15-6.

5. Originally I intended this paper to be on the effect of vocational education on minorities as well as on women, but I found that the vocational education issues affecting the two groups are quite diverse. In fact, the effect of vocational education on and the needs of various minority groups are also highly varied. Therefore, in order to confine this paper to reasonable bounds, I am limiting it to women. I very much hope that others will address themselves to the effect of vocational education on various minority groups. Herbert Striner and Jacob Kaufman et al. have begun this effort. See Herbert E. Striner, Toward a Fundamental Program for the Training, Employment and Economic Equality of the American Indian, Washington, D.C.: The Upjohn Institute, 1968, pp. 303-304; Jacob J. Kaufman, Carl J. Schaefer, Morgan V. Lewis, David W. Stevens, and Elaine W. House, The Role of Secondary Schools

in the Preparation of Youth for Employment: A Comparative Study of the Vocational, Academic and General Curricula, University Park, Penn.: Institute for Research on Human Resources, 1967, Chapter 9, "The Negro and Vocational Education." A recent U.S. Office of Civil Rights sampling of 79 area vocational schools in Illinois, Indiana, Michigan and Ohio found that only 135 of the 2,612 instructors in these schools were minority members (5.3%) despite the facts that the minority population of these four states is more than 10%, the representation of minorities among all the public elementary and secondary teachers of these four states approaches 10%, and minorities are a high proportion of the work force at all levels of skill and competence in these states. Peter E. Holmes, Director, Office for Civil Rights, U.S. Department of Health, Education and Welfare, "Enforcement of Civil Rights Statutes in Area Vocational-Technical Schools," paper prepared for the Annual Meeting of State Directors of Vocational Education, Washington, D.C., May 1, 1974, p. 11.

6. Kaufman, et al., op. cit., p. 10-13; cf. Bernard M. McAlister, Curriculum Selection and Success of Tenth Grade Girls as Related to Selected Ninth Grade Characteristics, University Park, Penn.: Vocational Development Studies Monograph No. 9, Pennsylvania State University Department of Vocational Education, 1973.

7. Manpower Administration, U.S. Department of Labor, Women in Apprenticeship--Why Not? Manpower Research Monograph No. 33, Washington, D.C.: U.S. Government Printing Office, 1974, p. 1.

8. These percentages include homemaking which does not fall within the definition of vocational education used in footnote #1 and by the U.S. Congress. Despite the Congressional definition, most vocational education data provided by the U.S. Office of Education includes homemaking which is not "preparation for gainful employment." When homemaking is excluded, 51% of the females enrolled in secondary-level vocational education programs were enrolled in office/business programs. Data calculated from Bureau of Adult, Vocational and Technical Education, Summary Data: Vocational Education, Fiscal Year 1972, Washington, D.C.: Office of Education, U.S. Department of Health, Education and Welfare, May 1973, p. 2.

9. Elizabeth Camp King, Perceptions of Female Vocational Faculty Members as Seen by Themselves and College Administrators; Bureau of Vocational Education, Pennsylvania Department of Education, 1973, p. 18.

10. Leonard A. Lecht, "Priorities in Vocational Education: Recent Developments and Potentials for Change During the 1970's," Looking Ahead, Vol. 20, No. 7, November 1972, p. 1. Cf. Kaufman, et al., pp. 5-31 - 5-36.

11. Congress authorized $152.5 million or nearly 4 times as much as was appropriated for vocational education research and development for fiscal year 1974.

12. Ralph R. Canter reported that he could "not locate any on-going or planned studies" on "how vocational education might be adjusted to better meet the needs of girls and women." He noted that "the Army anticipates the possibility of such studies in two or three years. The Office of Naval Research has received proposals for such studies but has not been able to fund any. The Air Force, the Marine Corps, the Office of the Secretary of Defense, and the Defense Advanced Research Projects

Agency have no programs in this area. In sum, DOD agencies have not found this area to need research efforts as yet." Ralph R. Canter, Program Manager, Life Sciences Directorate, Air Force Office of Scientific Research, U.S. Department of the Air Force letter to Monica K. Sinding, Research Associate, Committee on Vocational Education Research and Development, Assembly of Behavioral and Social Sciences, National Research Council, October 18, 1974. Glenn C. Boerrigter reported that "I regret that a rather thorough search of projects (anticipated and existing) indicates nothing specifically directed to" the concern "of how vocational education might be adjusted to better meet the needs of girls and women." Glenn C. Boerrigter, Chief, Research Branch, Division of Research and Demonstration, Office of Education, U.S. Department of Health, Education and Welfare to Monica K. Sinding, September 16, 1974. Howard Rosen wrote that "a search of the files reveals that neither the Office of Manpower Research and Development nor the Office of Manpower Program Evaluation has issued a Request for Proposals concerning how vocational education might be adjusted to better meet the needs of girls and women." Howard Rosen, Director, Office of Manpower Research and Development, Manpower Administration, U.S. Department of Labor, letter to Monica K. Sinding, September 10, 1974, The Division of Manpower Development and Training of the U.S. Office of Education in 1974 solicited "proposals from qualified contractors who can provide a Career Development Program for women entering Manpower Development and Training (MDTA) programs to assist them in widening their occupation opportunities beyond clerical, health and food services." It noted that "over 90%" of the female trainees in MDTA institutional programs "have been enrolled in either clerical, food services, or health related occupational training," and that although "the income level of both men and women increases after MDTA training, ...the income level of women after training has never reached the pre-training income level of men." U.S. Government Contracting Office, U.S. Office of Education, Department of Health, Education and Welfare, "New Careers for Women," Washington, D.C.: stencil, 1974.

13. U.S. Department of Health, Education and Welfare, Bureau of Occupational and Adult Education, "Research Projects in Vocational Education: Fiscal Year 1974 Program, Funded Under Section 131(a), Part C, Vocational Education Amendments of 1968 P.L. 90-576," stencil, July 1974.

14. Kathryn L. Mulligan, A Question of Opportunity: Women and Continuing Education, Washington, D.C.: The National Advisory Council on Extension and Continuing Education, March 13, 1973, p. 25.

15. Interview, Mary Wingrove, Curriculum Development Branch, Bureau of Occupational and Adult Education, U.S. Department of Health, Education and Welfare, August 12, 1974.

16. Interview, Dr. Joyce Cook, Acting Chief, Demonstration Branch, Bureau of Occupational and Adult Education, U.S. Department of Health, Education and Welfare, August 16, 1974. One project on women, "Identifying Adolescent Women Who Maintain and Change Career Decisions to Enter the Scientific Occupations," now funded by the National Science Foundation, has developed out of a project funded under Part D. It is directed by Dr. Elaine Kotcher, Project Director, Career Education, Mineola Public Schools, Mineola, New York. The project will also yield data on adolescent women's decisions to enter nontraditional semi-skilled, skilled or technical occupations. Interview, Elaine Kotcher, August 16, 1974

17. The State of Illinois' Office of Vocational Education in 1974 released a request for a proposal (RFP) for $30,000 for the development of curriculum materials to encourage girls to consider a wider range of jobs. Dr. JoAnn M. Steiger of Steiger, Fink and Smith, Inc., McLean, Virginia, was awarded the contract. The same year, the New Hampshire Office of Vocational Education used Part C monies to fund the development of instructional materials geared to women on "Careers in Building Trades." (Langdon Plumer, Director of Vocational Education, Exeter High School, Exeter, New Hampshire, letter to Pamela Roby, November 4, 1974). The Division of Occupational Research and Development of the Texas Education Agency has also used Part C monies to fund a demonstration project to develop a "model to recruit females into vocational programs that have traditionally been dominated by males and to maintain the increased female enrollment in these courses. Joseph E. Champagne is the principle investigator of the project which began February 1, 1975 in the Sam Houston High School. The project activities are being conducted by the co-directors, Jane Lerner and Fredell Bergstrom. Interview, Joseph E. Champagne, Principle Investigator, Project on Equal Vocational Education, The Center for Human Resources, University of Houston, March 11, 1974. "Equal Vocational Education," A Project by the Center for Human Resources, University of Houston in cooperation with the Houston Independent School District, sponsored by The Division of Occupational Research and Development, Texas Education Agency, February 1975 - June 1976, Houston, stencil, p. 3.

18. Mary B. Kievit, President, American Vocational Education Research Association, letter to Pamela Roby, March 25, 1975.

19. Calculated from U.S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings, Vol. 20, No. 11, May 1974, Table 820 and 821, pp. 32, 33.

20. U.S. Department of Labor, Women's Bureau, "Why Women Work," Revised, Washington, D.C.: U.S. Government Printing Office, March 1974. The Bureau of Labor Statistics' "lower budget" income standard was $8,181, "intermediate budget" $12,626, and "high budget" $18,201, for an urban family of 4 in autumn 1973. U.S. Department of Labor, Bureau of Labor Statistics, "Autumn 1973 Urban Family Budgets and Comparative Indexes for Selected Urban Areas," June 16, 1974 press release, Table A, p. 2. For a description of the concepts and procedures used in the development of the B.L.S. budgets see U.S. Department of Labor, Bureau of Labor Statistics, "Three Standards of Living for an Urban Family of Four Persons." Bulletin No. 1570-5, Washington, D.C.: U.S. Government Printing Office, 1969, pp. 1-4.

21. U.S. Department of Labor, Women's Bureau, Advanced Tables, stencil. The full-time year-round median, before-tax wage of female sales workers was $4,575; of non-farm laborers, $4,755; and of craft workers, $5,731 in 1972.

22. Mary Stevenson, "Women's Wages: The Cost of Being Female," paper presented to the Society for the Study of Social Problems, August 1972, p. 8; cf. Mary Stevenson, The Determinants of Low Wages for Women Workers, Ann Arbor, Michigan: Department of Economics, University of Michigan, Ph.D. Dissertation, 1974; Barry Bluestone, William M. Murphy and Mary Stevenson, Low Wages and the Working Poor, Ann Arbor, Michigan. The Institute of Labor and Industrial Relations, The University of Michigan, 1973; R. Bergman, "Occupational Segregation, Wages, and Profits When Employers Discriminate by Race or Sex," Journal of Political Economy, March-April, 1971.

23. Figures for hourly wages which exclude the effect of part-time and overtime work, support conclusions based on weekly earnings. Elizabeth Waldman and Beverly J. McEaddy, "Where Women Work - an Analysis by Industry and Occupation," Monthly Labor Review, Vol. 97, No. 5, May 1974, p. 7.

24. Mary L. Ellis, "Women in Technical Education," Technical Education News, Vol. 31, No. 2, April 1972, p. 5.

25. Waldman and McEaddy, op. cit., p. 10.

26. In 1970 almost half a million women were working in skilled occupations, up from 277,000 in 1960. The rate of increase (about 80%) was twice that for women in all occupations and 8 times the rate of increase for men in the skilled trades. Janice Neipert Hedges and Stephen E. Bemis, "Sex Stereotyping: Its Decline in Skilled Trades," Monthly Labor Review, Vol. 97, No. 5, May 1974, p. 14. 524,000 females over age 16 were working in craft and kindred jobs in May 1974. U.S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings: June 1974, Washington, D.C.: U.S. Government Printing Office, 1974, Tables 820 and 821, pp. 31 and 32.

27. Jon J. Durkin, The Potential of Women, Research Bulletin 87, Washington, D.C.: Johnson O'Connor Research Foundation, 1972.

28. Title IX, "Prohibition of Sex Discrimination," U.S. Education Amendments of 1972, Public Law 92-318, 92nd Congress, S. 659, June 23, 1972. Proposed Rules, Department of Health, Education and Welfare, Office of the Secretary, Education Programs: Nondiscrimination on the Basis of Sex," Federal Register, Vol. 39, No. 120, Part II, June 20, 1974, pp. 22228-40.

29. Pamela Roby, "Structural and Internalized Barriers to Women in Higher Education," in Constantina Safilios-Rothschild (ed.), Toward A Sociology of Women, Lexington, Massachusetts: Xerox College Publishing, 1972, pp. 121-140, reprinted in Jo Freeman (ed.) Women: A Feminist Perspective, Palo Alto, California: Mayfield Publishing Company, 1974, pp. 171-194; Pamela Roby, "Institutional Barriers to Women Students in Higher Education," Alice S. Rossi and Ann Calderwood, (eds.), Academic Women on the Move, New York: Russell Sage Foundation, 1973, pp. 37-56.

30. A significant percentage of both adolescent girls and boys have unrealistic expectations about women's work lives. A recent survey of high school seniors from fourteen Arkansas public high schools found that 22.6% of the girls and 38.9% of the boys believed that "Most girls will become housewives and never work outside the home," and that 29.4% of the girls and 45% of the boys believed that "Women should stick to women's jobs and not compete with men." Peggy W. Patrick, "Education and Counseling Status Report on Young Men and Women: A Survey of Senior Students from Fourteen Public Secondary Schools in Arkansas." Governor's Commission on the Status of Women, Little Rock, Arkansas, December 1972, cited in JoAnn M. Steiger, "Vocational Preparation for Women: A Critical Analysis," stencil prepared for the Research and Development Unit, Division of Vocational and Technical Education, Board of Vocational Education and Rehabilitation, State of Illinois under contract No. RDD A5-240, December 1974, p. 23.

Another survey conducted by Social Research, Inc. did discover attitudinal changes among a sample of working class women from eight cities. It found that the women surveyed in 1972 were less homebound and more active in the local community and more assertive within their homes than a similar sample in 1959. Nearly all the samples also endorsed the principle of "equal pay for equal work" and most endorsed the ideas of allowing any woman who wants to, to hold any job for which she also has the necessary work skills and qualification." Working-Class Women in a Changing World, prepared for McFadden-Bartell Corporation. (Study #287107), Chicago: Social Research Inc., 1973, pp. 5, 9, 12.

31. Sandra L. Bems and Daryl J. Bems, "Training the Woman to Know Her Place," Kathleen Barry, "A View from the Doll Corner," Leah Heyn, "Children's Books," Jamie K. Frisof, "Textbooks and Conditioning," and Donna Keek; "The Art of Maiming Women" all in Women, Vol. 1, No. 1, Fall 1969. Also see Nancy Frazier and Myra Sadher, Sexism in School and Society, New York: Harper and Row, 1973; and Scott, Foresman and Company, Guidelines for Improving the Image of Women in Textbooks, Glenview, Illinois: Scott Foresman and Company, 1972; M.B. U'Ren, "The Image of Women in Textbooks," in Vivian Gornick and B.K. Moran (eds.), Woman in Sexist Society: Studies in Power and Powerlessness, New York: Basic Books, 1971; and D.B. Graebner, "A Decade of Sexism in Readers," The Reading Teacher, Vol. 26, October 1972.

32. See Leonore J. Weitzman, Deborah Eifler, Elizabeth Hokada and Catherine Ross, "Sex-Role Socialization in Picture Books for Preschool Children," American Journal of Society, Vol. 77, No. 6, May 1972; Elizabeth Fisher, "Children's Books: The Second Sex, Junior Division," New York Times Book Review, 1970, pp. 89-94; Ruth Hartley and A. Kelin, "Sex Role Concepts Among Elementary School-Age Girls," Marriage and Family Living, Vol. 21, February 1959, pp. 59-64; and Ann Eliasberg, "Are You Hurting Your Daughter Without Knowing It?" Family Circle, February 1971. For an extensive analysis of 2.760 stories in 134 children's readers, see Women on Words and Images, Dick and Jane as Victims: Sex Stereotyping in Children's Readers, Princeton, New Jersey: Women on Words and Images, 1972. It found that the stories included biographies about 88 different men and 17 women. The overall ratio of stories about boys to stories about girls was five to two.

33. Jack Conrad Willers, "The Impact of Women's Liberation on Sexist Education and Its Implications for Vocational-Technical and Career Education," paper delivered to the Regional Seminar/Workshop on Women in the World of Work conducted by the Technical Education Research Centers, stencil: Department of History and Philosophy of Education, George Peabody College for Teachers, Nashville, Tennessee, 1974, p. 8.

34. Peter E. Holmes, op. cit., pp. 11-12. Cf. Office for Civil Rights, U.S. Department of Health, Education, and Welfare, A Guide to Compliance Enforcement in Area Vocational-Education Schools (AVES) prepared by Policy and Program Development Branch, Elementary and Secondary Education Division, 1974, stencil, pp. 61. For local studies of vocational school policies that discriminate on the basis of sex, see: Jean L. Ambrose, "The Dual Problems of Sexism and Sex Discrimination in Vocational Education in New Jersey," Trenton, New Jersey: New Jersey Education Association Publication No. ID-WIE-01; Marcia Federbush, Let Them Aspire! Ann Arbor, Michigan: A Report of the Committee to Eliminate Sexual Discrimination in the Public Schools, Third Edition, January 1973; Gail Byran, Discrimination on the Basis of Sex in Occupational Education in the Boston Public Schools, Boston:

stencil, the Boston Commission to Improve the Status of Women, 1972; Massachusetts Advisory Council on Vocational-Technical Education, "Status of Women in Occupational Education," in An Evaluation of Occupational Education in Massachusetts, Boston, Massachusetts: The Fourth Annual Report of the Massachusetts Advisory Council on Vocational-Technical Education, 1973, pp. 81-85; Regina Healy and Diane Lund, "Chapter 622: One State's Mandate," Inequality in Education, No. 18, October 1974, pp. 36-46; Testimony of Raymond C. Parrot, Executive Director, Massachusetts Advisory Council on Vocational-Technical Education, submitted to the House of Representatives, Committee on Education and Labor, Subcommittee on Elementary, Secondary and Vocational Education, March 17, 1975.

35. The Comptroller General of the United States, What Is The Role of Federal Assistance for Vocational Education? Report to the Congress, Washington, D.C.: U.S. General Accounting Office, 1974, pp. 84, 86.

36. Marilyn Steele, Women in Vocational Education, Flagstaff, Arizona: Project Baseline Supplemental Report Submitted Under Contract to Technical Education Research Centers, Inc., October 30, 1974, pp. 45, 48.

37. Ibid.

38. The Women's Equity Action League, the National Organization for Women, the National Education Association, the Federation of Organizations for Professional Women, the Association of Women in Science, and the United States National Student Association are the organizations which are plaintiffs in the case. Caspar Weinberger, Secretary of the Department of Health, Education and Welfare; Peter Holmes, Director of the Office for Civil Rights, HEW: Peter J. Brennan, Secretary of the U.S. Department of Labor; and Philip J. Davis, Director of the Office of Federal Contract Compliance, DOL are the defendants. Women's Equity Action League et al vs. Weinberger et al, presently pending in the District Court for the District of Columbia (Civil Action No. 74-1720).

39. Statement of Nancy Perlman, Director of the Department of Program Development, American Federation of State, County and Municipal Employees, Testifying on Behalf of the Coalition of Labor Union Women on Sex Discrimination in Vocational Education before the Subcommittee on Elementary, Secondary and Vocational Education of the House Committee on Education and Labor, March 17, 1975, p. 9.

40. Florence Mintz, "Development of a Model for the Recruitment of Mature Women in Traditionally Male-Oriented Occupational Education Programs," a dissertation proposal for the Department of Vocational Education, Rutgers University, 1974, pp. 6, 5, 33.

41. Janice Law Trecker, "Sex Stereotyping in the Secondary School Curriculum," Phi Delta Kappan, Vol. LV, No. 2, October 1973, p. 112.

42. Women's Bureau, U.S. Department of Labor, A Working Woman's Guide to Her Job Rights, Washington, D.C.: U.S. Government Printing Office, 1974, 38 pp.

43. Elizabeth Camp King, op. cit., pp. 74-75.

44. Ibid., p. 73.

45. The bachelor's, master's and doctor's degrees conferred in industrial arts, vocational and vocational/technical education, and agricultural education were similarly distributed among men and women. Women received the following percentage of the degrees conferred in 1970-71: industrial arts, vocational and vocational/technical education: 1.5% of the bachelors, 5.3% of the masters and 5.7% of the doctoral degrees; agricultural education: 1.0% of the bachelors, 4.7% of the masters, and 2.3% of the doctoral degrees; home economics education: 98.5% of the bachelors, 90.4% of the masters and 96.4% of the doctoral degrees. Mary Evans Hooper, Earned Degrees Conferred, 1970-71, National Center for Education Statistics, Office of Education, Department of Health, Education and Welfare, Washington, D.C.: U.S. Government Printing Office, 1973, pp. 173-268 cited in Marilyn Steele, op. cit., p. 113.

46. The random sample of 400 directors was drawn from a total of 2148 area vocational school directors in the United States. Patricia Tucker Sites, Perceptions of Professional Female Vocational Faculty and Their Administrators of the Role of Professional Women in Area Vocational Schools, a Dissertation for the Doctor of Education, Department of Vocational Education, The Pennsylvania State University, May 1975, pp. 29, 44. In December 1972, the house of delegates of the American Vocational Association at its Chicago Convention passed a resolution that "the American Vocational Association Board of Directors authorize a study of professional employment in Vocational Education with regard to the number of males and females at every level of the profession, the salaries paid to each category of employee, and any restrictions in promotional opportunities because of sex." However, the Board of Directors did not authorize the study. Elizabeth Camp King, op. cit., preface, and interview, Angelo Gilli, Vice-President, American Vocational Association, March 31, 1975. The Sites study and the King study described above are a part of a series of studies on the status and roles of professional women in vocational education which is being conducted under the general supervision of Angelo C. Gilli, Sr. in the Department of Vocational Education and the Pennsylvania State University. The other studies are Thomas E. Long, "Vocational Female Faculty in Post-Secondary Proprietory Schools," and Eugenio Basualdo's dissertation (in process) on professional women and school administrators in comprehensive high school vocational programs. The Pennsylvania State University Department of Vocational Education has been granted only $3,877 to conduct all of these projects on women (these were funded by the Department of Vocational Education, The State of Pennsylvania, Project No. 14-3064 - "School Unit 4-10-14-720-1"). The Pennsylvania State Vocational Education Department, the research unit which has been most productive nationally in terms of research on women, was denied a request for another $11,000 for the replication of the female data for their male counterparts. Angelo C. Gilli, Sr., Professor and Chairman, Graduate Studies and Research, Department of Vocational Education, The Pennsylvania State University, letter to Pamela Roby, April 1, 1975.

47. Carol Karasik, "Women: The Job Ahead," Washington, D.C.: Technical Education Research Centers, January 1974, p. 2. In May 1975 one woman, Wilma Ludwig, was appointed as New Mexico's State Director of Vocational Education.

48. Public Law 90-576, 90th Congress, H.R. 18366, October 16, 1968, An Act to Amend the Vocational Education Act of 1963, Sec. 552(a).

49. P.L. 90-576, Sec 553(a).

50. The eleven institutions of higher education were: University of California at Los Angeles, Colorado State University, University of Connecticut, University of Georgia, University of Illinois, University of Minnesota, Rutgers - The State University, North Carolina State University, Ohio State University, Oklahoma State University, Oregon State University. Phillyis D. Hamilton, Marian S. Stearns, Harold R. Winslow, Georgia Gillis, and Kathryn A. Preecs, The Education Professions 1973-1974: Personnel Development in Vocational Education, Menlo Park, California: Stanford Research Institute, October 31, 1974 prepared for National Center for Educational Statistics, pp. 9, 10.

51. Ibid., pp. 89-90, 93.

52. Ibid., p. 60.

53. Ibid., p. 78.

54. 108 Blacks (81 males), 25 Spanish surname (19 males) 17 American Indian (12 males), 15 "other" (Phillipinos, Orientals, Hawaiians - all males), and 846 Caucasians (735 males) comprised the state advisory councils on vocational education in 1974. Data from JoAnne Steiger, National Advisory Council on Vocational Education staff member, interview, August 9, 1975.

55. The female members of the National Advisory Council on Vocational Education are Joanne Cohen (student), Caroline Hughes and Margo Thornly.

56. P. L. 90-576, 90th Congress, H.R. 18366, October 16, 1968, "An Act to Amend the Vocational Education Act of 1963, and for other purposes," Sec. 104. Because appointments on state Advisory Councils on Vocational Education are not restricted numerically, appointment to them is less competitive than to the National Advisory Council. The State Councils are appointed by the Governor, except in those states where the State Board of Education is elected by the people, in which case the Council is appointed by the President of the State Board. Martha G. Bachman, Chairperson, Committee on Equal Educational Opportunity, National Advisory Council on Vocational Education, letter to Pamela Roby, December 2, 1974.

57. For a fine annotated bibliography on the determinants of women's career choices, see Helen S. Astin, Nancy Suniewick, and Susan Dweck, Women: A Bibliography on Their Education and Careers, Washington, D.C.: Human Service Press, 1971, pp. 27-79.

58. No indepth study has been made of the effect of counseling in vocational education on girls' role development. A four-year longitudinal study involving interviews and psychological tests of female undergraduate students was conducted at Stanford University. The data reported from the study show that "women students need special encouragement to develop intellectual, artistic and professional ambitions." The study revealed further that "an interested male has the power to

communicate to the maturing young woman that she is not damaging her femininity by developing her mind and skills. Sometimes even a subtle form of consent or disapproval from a male served as a stimulus for a young woman to advance or retreat." Marjorie M. Lozoff, "Abstract of College Influences on the Role Development of Female Undergraduates," stenciled, Palo Alto, California: Stanford Institute for the Study of Human Problems, 1969, p. 3.

59. John Cardascia and William R. Morgan, "Sex-Role Innovation in the Occupational Preferences of High School Females," stencil: a paper presented at the 69th Annual Meeting of the American Sociological Association, August 29, 1974, p. 16. Cf. Agnes C. Rezler, "Characteristics of High School Girls Choosing Traditional or Pioneer Vocations," Personnel and Guidance Journal, Vol. 45, pp. 659-665.

60. National Institute of Education, U.S. Department of Health, Education, and Welfare, "Guidelines for Assessment of Sex Bias and Sex Fairness in Career Interest Inventories," Washington, D.C.: stencil, July 1974, 12 pp.; cf. Carol B. Crump (ed.), Report of Proceedings: Workshop on Sex Bias and Sex Fairness in Career Interest Inventories, Washington, D.C.: National Institute of Education, November 1974; Esther E. Diamond (ed.), Issues of Sex Bias and Sex Fairness in Career Interest Measurement, Washington, D.C.: U.S. Government Printing Office, 1974, available from Career Education Program, National Institute of Education, Washington, D.C. 20208.

61. In 1969, the year for which the most recent statistics are avilable, there were 176,500 births to unmarried girls age 19 and younger and about the same number of births to married girls which were conceived prior to marriage. Approximately three-fourths of these girls had not wanted to become pregnant. Most of these girls were banned from attending high school during their pregnancies, and many were unable to return after they gave birth. Many more girls with unwanted pregnancies resorted to abortions. Lee Morris, "Estimating the Need for Family Planning Services Among Unwed Teenagers," Family Planning Perspectives (F.P.P.), Vol. 6, No. 2, Spring 1974, p. 93. cf. Sadja Goldsmith, Mary O. Gabrielson, Ira Gabrielson, Vicki Mathews and Leah Potts, "Teenagers, Sex and Contraception," F.P.P., Vol. 4, No. 1, January 1972; Melvin Zelnick and John F. Kantner, "The Resolution of Teenage First Pregnancies," F.P.P., Vol. 6, No. 2 Spring 1974; Zelnick and Kantner, "Sexuality, Contraception, and Pregnancy Among Young Unwed Females in the United States," in C.F. Westoff and R. Parke (eds.), Demographic and Social Aspects of Population Growth, Vol. I of Commission on Population Growth and the American Future Reports, Washington, D.C.: U.S. Government Printing Office, 1972; Mary E. Lane, "Contraception for Adolescents," F.P.P., Vol. 5, No. 1, Winter 1973, Elizabeth A. House and Sadja Goldsmith, "Planned Parenthood Services for the Young Teenager," F.P.P., Vol. 4, No. 2, April 1972; Jane Menken, "The Health and Social Consequences of Teenage Childbearing," F.P.P., Vol. 4, No. 3, July 1972.

62. Willer, op. cit., p. 7; cf. Janice Neipert Hedges, "Women Workers and Manpower Demands in the 1970's." Monthly Labor Review, Vol. 93, No. 6, June 1970, p. 29.

63. Kaufman, op. cit., p. 10-3.

64. Ibid., p. 5-34.

65. Ibid., pp. 6-3, 10-2.

66. Morgan V. Lewis, interview, August 5, 1974. The project is funded for $110,000 under Section 131(a), Part C of the Vocational Education Amendments of 1968 and extends to December 25, 1975; Research Proposal, "Nontraditional Vocational Education Programs for Women." Through surveying the state vocational education directors of all fifty states, the researchers eventually found that they would have to define programs currently enrolling 5 or more females in traditionally male careers as programs which had "succeeded in preparing young women for occupations which are traditionally considered appropriate only for males" in order to get a sample of 10 programs. Interview, Lynne Kaltreider, Research Associate, "Nontraditional Vocational Education Programs for Women," March 11, 1975.

67. Kaufman, op. cit.; Cf. Jo Ann Gardner, "Sexist Counseling Must Stop," Personnel and Guidance Journal, 49, 1971, pp. 705-714.

68. Kaufman, op. cit., pp. 10-14.

69. Larry J. Bailey and Ronald W. Stadt, Career Education: New Approaches to Human Development, Bloomington, Illinois: McKnight Publishing Company, 1973, p. 140.

70. McAlister, op. cit., pp. 92-93; cf. H.A. Rose and C.F. Elton, "Sex and Occupational Choice," Journal of Counseling Psychology, Vol. 18, No. 5, 1971

71. Bailey and Stadt, op. cit., p. 143.

72. U.S. Department of Labor, Women's Bureau, "The Myth and the Reality," Washington, D.C.: U.S. Government Printing Office, 1971.

73. Bailey and Stadt, op. cit., p. 146.

74. Sally Hillsman Baker conducted an in-depth case study of a large New York City vocational high school of fashion. The study, the most comprehensive to date of the influences of vocational education processes on women, found that the school, through a variety of actions, sorted women into different levels of work in the fashion industry according to their racial and ethnic background. Sally Hillsman Baker, Entry Into the Labor Market: The Preparation of Negro and White Vocational High School Graduates, unpublished Ph.D. dissertation, Columbia University, 1970.

75. I am indebted to Norma Wikler for this idea.

76. The Krumboltz Kits are now being distributed by Science Research Associates under the name "Job Experience Kits." Cf. John D. Krumboltz, et al, "Vocational Problem-Solving Experiences for Stimulating Career Exploration and Interest," Final Report to U.S. Office of Education Under Contract No. OE-5-85-059, School of Education, Stanford University, August 1967; and Krumboltz, et al, "Vocational Problem-Solving Experiences for Stimulating Career Exploration and Interest: Phase II," Final Report to U.S. Office of Education Under Contract No. OEG-4-7-070111-2890, School of Education, Stanford University, August 1968. (Documents Ed015517 and Ed029101, available from the ERIC Document Reproduction Service, P.O. Drawer 'O', Bethesda, Md. 20014.)

77. "Equal Vocational Education," A Project by the Center for Human Resources, University of Houston in cooperation with the Houston Independent School District, sponsored by The Division of Occupational Research and Development, Texas Education Agency, February 1975 - June 1976, Houston, stencil, p. 5.

78. Kaufman, op. cit., pp. 6-22.

79. JoAnn M. Steiger, "Overcoming Sex Stereotyping in Vocational Education: Recommendations for Revising the Vocational Education Amendments of 1968," stencil, McLean, Virginia: Steiger, Fink and Smith, Inc., 1974, p. 6.

80. Ibid., p. 5.

81. Wisconsin and North Carolina now have state funded positions to review all vocational education programs and research for sexual and racial bias and to encourage the development of positive programs for women and minorities.

82. The Sex Equality in Guidance Opportunities Project (SEGO) of the American Personnel and Guidance Association (APGA) represents a national effort to provide technical assistance to help elementary and secondary school counselors and related educational personnel to recognize and change the detrimental and limiting effects of sex role stereotyping which prevent children from developing and utilizing their full capabilities. The Project is funded by the U.S. Office of Education under a contract to the American Personnel and Guidance Association.

In its descriptive brochure it states, "In considering the question of sex quality, it is important to recognize that sex bias need not be blatant or malicious before it can be damaging. The subtle and pervasive stereotypic expectations of what is 'appropriate' sex role behavior for girls and boys can be a powerfully negative force which limits the opportunities and, therefore, the growth of children. Counselors and other educators are key individuals who motivate and guide students in the selection of course offerings and careers. Their programs and materials should be free of sex bias.

To reach these key persons, fifty-one counselors, the State Trainers of the SEGO Project (one from each state and the District of Columbia), were selected and brought to Washington, D.C. for an intensive four-day training workshop in sex fair guidance practices and attitudes. Among the topics included in the Training Workshop were the implications of Title IX, the law forbidding sex discrimination in educational institutions, guidelines for sex fair interest measurement, research on sex roles, assertiveness training, aspects of the Women's Movement, non-traditional counseling for boys and men, the double stereotyping of minority girls and women, values clarification, the counselor role as consultant to educational personnel and strategies for change.

The ripple effect of the Project will be carried out by the State Trainers who will go back to their states and conduct local workshops on sex fairness and equality under the Project's direction and funding. These local workshops will provide information on sex equality as well as techniques to insure a sex fair guidance program and educational experience for the nation's children.

The Project has developed a Multi-Media Kit for the State Trainers to use in the local workshops. The Kit contains nearly 100 items of print material on subjects related to the purposes of the Project. The Kit also contains A Chance to Choose, a new filmstrip on sex fair guidance produced by the Project. The following pages of this booklet list the materials in the Kit along with the source and cost of each item. Additional information included in this booklet are lists of organizations, publishers and reports which provide helpful information and materials in regard to sex bias. These lists are not inclusive and are designed as a 'starter' set which we hope will lead to further resources. Also included is a list of the fifty-one State Trainers of the SEGO Project. A final report of the Project will be available in the fall of 1975."

For copies of this booklet or information about the Project, write to the SEGO Project, APGA, Sex Equality in Guidance Opportunities Project, 1607 New Hampshire Avenue, N.W., Washington, D.C. 20009.

83. Cf. Women's Bureau, U.S. Department of Labor, "The Myth and the Reality," op. cit.

APPENDIX A: Outline of the "Vocational Education Amendments of 1968," Public Law 90-576, 90th Congress, H.R. 18366, October 16, 1968:

TITLE I: Amendments to the Vocational Education Act of 1963:

PART A - General Provisions:

Section 101 - Declaration of Purpose
102 - Authorization of Appropriations
103 - Allotments Among States
104 - National and State Advisory Councils
105 - Federal Administration
106 - Labor Standards
107 - Limitations of Payments under this Title
108 - Definitions

PART B - State Vocational Education Programs:

Section 121 - Authorization of Grants
122 - Uses of Federal Funds
123 - State Plans
124 - Payments to States

PART C - Research and Training in Vocational Education:

Section 131 - Authorization of Grants and Contracts
132 - Uses of Federal Funds
133 - Applications
134 - Payments

PART D - Exemplary Programs and Projects:

Section 141 - Findings and Purpose
142 - Authorization of Grants and Contracts
143 - Uses of Funds
144 - Payments
145 - Limitation on Duration of Assistance

PART E - Residential Vocational Education:

Section 151 - Demonstration Schools
152 - State Programs
153 - Grants to Reduce Borrowing Costs

PART F - Consumer and Homemaking Education:

Section 161 - Authorization

PART G - Cooperative Vocational Education Programs (Work Study):

Section 171 - Findings and Purpose
172 - Authorizations and Allotments

173 - Plan Requirement
174 - Use of Funds
175 - Definition

PART H - Work Study Programs for Vocational Education Students:

Section 181 - Authorization of Appropriations and Allotment
182 - Plan Requirement
183 - Payments
184 - Status of Participants

PART I - Curriculum Development in Vocational and Technical Education:

Section 191 - Authorization

TITLE II: Vocational Education Leadership and Professional Development Amendment of Higher Education Act of 1965:

PART F - Training and Development Programs for Vocational Education Personnel:

Section 551 - Statement of Purpose
552 - Leadership Development Awards
553 - Exchange Programs, Institutes and Inservice Education for Vocational Education Teachers, Supervisors, Coordinators and Administrators
554 - Familiarizing Teachers with New Curricular Materials
555 - Appropriations Authorized